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SHORT ISOFORM 03)/CN

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ISOFORM 1)/CN

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L1 1 96720-06-8/RN

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L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2008 ACS on STN

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OTHER CA INDEX NAMES:

CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-, inner salt, 4-oxide (9CI)

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L2 ANSWER 1 OF 27 MEDLINE on STN ACCESSION NUMBER: 2004505822 MEDLINE DOCUMENT NUMBER: PubMed ID: 15474031

TITLE: Interactions of 12-lipoxygenase with phospholipase A2 isoforms following platelet activation through the

glycoprotein VI collagen receptor.

AUTHOR: Coffey Marcus J; Coles Barbara; Locke Matthew;

Bermudez-Fajardo Alexandra; Williams P Claire; Jarvis Gavin

E; O'donnell Valerie B

CORPORATE SOURCE: Department of Medical Biochemistry and Immunology, Wales

College of Medicine, Cardiff University, Heath Park,

Cardiff CF14 4XN, UK.. coffeymj@cardiff.ac.uk

SOURCE: FEBS letters, (2004 Oct 8) Vol. 576, No. 1-2, pp. 165-8.

Journal code: 0155157. ISSN: 0014-5793.

PUB. COUNTRY: Netherlands

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200411

ENTRY DATE: Entered STN: 13 Oct 2004

Last Updated on STN: 19 Dec 2004 Entered Medline: 19 Nov 2004

AB Recent studies implicate the collagen receptor, glycoprotein VI (GPVI) in activation of platelet 12-lipoxygenase (p12-LOX). Herein, we show that GPVI-stimulated 12-hydro(peroxy)eicosatetraenoic acid (H(P)ETE) synthesis is inhibited by palmityl trifluromethyl ketone or oleyloxyethylphosphocholine, but not bromoenol lactone, implicating secretory and cytosolic, but not calcium-independent phospholipase A2 (PLA2) isoforms. Also, following GPVI activation, 12-LOX co-immunoprecipitates with both cytosolic and secretory PLA2 (sPLA2). Finally, venoms containing sPLA2 acutely activate p12-LOX in a dose-dependent manner. This study shows that platelet 12-H(P)ETE generation utilizes arachidonate substrate from both c- and sPLA2 and that

12-LOX functionally associates with both PLA2 isoforms. Copyright 2004 Federation of European Biochemical Societies

L2 ANSWER 2 OF 27 MEDLINE on STN ACCESSION NUMBER: 2004455640 MEDLINE DOCUMENT NUMBER: PubMed ID: 15364285

TITLE: Phospholipase A2 in salivary glands isolated from tobacco

hornworms, Manduca sexta.

AUTHOR: Tunaz Hasan; Stanley David W

CORPORATE SOURCE: Insect Biochemical Physiology Laboratory, University of

Nebraska-Lincoln, 311 Plant Industry Building, Lincoln, NE

68583-0816, USA.

SOURCE: Comparative biochemistry and physiology. Part B,

Biochemistry & molecular biology, (2004 Sep) Vol. 139, No.

1, pp. 27-33.

Journal code: 9516061. ISSN: 1096-4959.

PUB. COUNTRY: England: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200506

Entered STN: 15 Sep 2004 ENTRY DATE:

> Last Updated on STN: 1 Jul 2005 Entered Medline: 30 Jun 2005

We describe a phospholipase A2 (PLA2) associated with the salivary glands AΒ of tobacco hornworms, Manduca sexta. This enzyme is able to hydrolyze arachidonic acid from the sn-2 position of PLs. Addition of the calcium chelator, EGTA, or calcium, to the Tris reaction buffer impaired the PLA2 activity, from which we infer the enzyme requires very low concentrations of calcium or perhaps other ions for optimal activity. PLA2 activity was sensitive to protein concentration (highest activity at 25 microg protein per microl), reaction time (optimal at 30 min), buffer pH (optimal at pH 8-10), and reaction temperature (optimal range 18-38 degrees C). The salivary gland PLA2 was sensitive to the site-specific inhibitor, oleyloxyethylphosphorylcholine and stable to freezing at -80degrees C, but not -20 degrees C. The biological significance of this enzyme may relate to hydrolysis of fatty acid moieties from dietary PLs for absorption by midgut epithelia. This salivary gland enzyme may also be responsible for killing food-borne bacteria.

ANSWER 3 OF 27 MEDLINE on STN ACCESSION NUMBER: 2003273417 MEDLINE PubMed ID: 12798493 DOCUMENT NUMBER:

TITLE: 1alpha, 25 (OH) 2D3 causes a rapid increase in

phosphatidylinositol-specific PLC-beta activity via

phospholipase A2-dependent production of lysophospholipid.

Schwartz Z; Shaked D; Hardin R R; Gruwell S; Dean D D; AUTHOR:

Sylvia V L; Boyan B D

CORPORATE SOURCE: Department of Biomedical Engineering, Georgia Institute of

Technology, 315 Ferst Drive, Atlanta, GA 30332, USA.

CONTRACT NUMBER: DE-05937 (United States NIDCR)

DE-08603 (United States NIDCR)

Steroids, (2003 May) Vol. 68, No. 5, pp. 423-37. SOURCE:

Journal code: 0404536. ISSN: 0039-128X.

PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE) DOCUMENT TYPE:

(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200402

ENTRY DATE: Entered STN: 12 Jun 2003

> Last Updated on STN: 2 Mar 2004 Entered Medline: 26 Feb 2004

AB 1alpha, 25(OH)(2)D(3) activates protein kinase C (PKC) in rat growth plate chondrocytes via mechanisms involving phosphatidylinositol-specific phospholipase C (PI-PLC) and phospholipase A(2) (PLA(2)). The purpose of this study was to determine if lalpha, 25(OH)(2)D(3) activates PI-PLC directly or through a PLA(2)-dependent mechanism. We determined which PLC isoforms are present in the growth plate chondrocytes, and determined which isoform(s) of PLC is(are) regulated by 1alpha, 25(OH)(2)D(3). Inhibitors and activators of PLA(2) were used to assess the inter-relationship between these two phospholipid-signaling pathways. PI-PLC activity in lysates of prehypertrophic and upper hypertrophic zone (growth zone) cells that were incubated with 1alpha, 25(OH)(2)D(3), was increased within 30s with peak activity at 1-3 min. PI-PLC activity in resting zone cells was unaffected by 1alpha, 25(OH)(2)D(3). 1beta, 25(OH)(2)D(3), 24R, 25(OH)(2)D(3), actinomycin D and cycloheximide had no effect on PLC in lysates of growth zone cells. Thus, 1alpha,25(OH)(2)D(3) regulation of PI-PLC enzyme activity is stereospecific, cell maturation-dependent, and nongenomic. PLA(2)-activation (mastoparan or melittin) increased PI-PLC activity to the same extent as lalpha, 25(OH)(2)D(3); PLA(2)-inhibition (quinacrine,

oleyloxyethylphosphorylcholine (OEPC), or AACOCF(3)) reduced the effect of lalpha,25(OH)(2)D(3). Neither arachidonic acid (AA) nor its metabolites affected PI-PLC. In contrast, lysophosphatidylcholine (LPC) and lysophosphatidylethanolamine (LPE) activated PI-PLC (LPE>LPC). lalpha,25(OH)(2)D(3) stimulated PI-PLC and PKC activities via Gq; GDPbetaS inhibited activity, but pertussis toxin did not. RT-PCR showed that the cells express PLC-betala, PLC-betalb, PLC-beta3 and PLC-gamma1 mRNA. Antibodies to PLC-beta1 and PLC-beta3 blocked the lalpha,25(OH)(2)D(3) effect; antibodies to PLC-delta and PLC-gamma did not. Thus, lalpha,25(OH)(2)D(3) regulates PLC-beta through PLA(2)-dependent production of lysophospholipid.

L2 ANSWER 4 OF 27 MEDLINE on STN ACCESSION NUMBER: 2003052135 MEDLINE DOCUMENT NUMBER: PubMed ID: 12562098

TITLE: Enzymatic activity and inhibition of the neurotoxic complex

vipoxin from the venom of Vipera ammodytes meridionalis.

AUTHOR: Noetzel Corinna; Chandra Vikas; Perbandt Markus;

Rajashankar Kanagalaghatta; Singh Tej; Aleksiev Boris;

Kalkura Narayana; Genov Nicolay; Betzel Christian

CORPORATE SOURCE: Institute of Medical Biochemistry and Molecular Biology,

University Hospital Eppendorf c/o DESY, Build. 22a,

Notkestrasse 85, 22603 Hamburg, Germany.

SOURCE: Zeitschrift fur Naturforschung. C, Journal of biosciences,

(2002 Nov-Dec) Vol. 57, No. 11-12, pp. 1078-83.

Journal code: 8912155. ISSN: 0341-0382. Germany: Germany, Federal Republic of

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English

PUB. COUNTRY:

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200304

ENTRY DATE: Entered STN: 4 Feb 2003

Last Updated on STN: 16 Apr 2003 Entered Medline: 14 Apr 2003

AB Vipoxin from the venom of Vipera ammodytes meridionalis is an unique neurotoxic complex between a toxic phospholipase A2 and a highly homologous non-toxic protein inhibitor. It is an example of evolution of a catalytic and toxic function into inhibitory and non-toxic one. The activity of the V. ammodytes meridionalis toxin is 1.7 times higher than that of the closely related (92% sequence identity) neurotoxic complex RV4/RV7 from the venom of Vipera russelli formosensis The enhanced enzymatic activity of vipoxin is attributed to limited structural changes, in particular to the substitutions G54R and Q78K in the PLA2 subunit of the complex and to the T54R substitution in the inhibitor. Oleyloxyethylphosphocholine, aristolochic acid and vitamin E suppressed the enzymatic activity of vipoxin and its isolated PLA2 subunit. These compounds influence inflammatory processes in which PLA2 is implicated. The peptide Lys-Ala-Ile-Tyr-Ser, which is an integral part of the PLA2 components of the two neurotoxic complexes from V. ammodytes meridionalis and V. russelli formosensis (sequence 70-74) activated vipoxin increasing its PLA2 activity by 23%. This is in contrast to the inhibitory effect of the respective pentapeptides with 70-74 sequences on other group II PLA2s. Surprisingly, the same peptide inhibited 46% of the V. russelli formosensis PLA2 activity. The limited changes in the structure of the two highly homologous neurotoxins lead to considerable differences in their interaction with native peptides.

L2 ANSWER 5 OF 27 MEDLINE on STN ACCESSION NUMBER: 2002725402 MEDLINE DOCUMENT NUMBER: PubMed ID: 12489129

TITLE: Eicosanoids in insect immunity: bacterial infection

stimulates hemocytic phospholipase A2 activity in tobacco

hornworms.

AUTHOR: Tunaz Hasan; Park Youngjin; Buyukguzel Kemal; Bedick Jon C;

Nor Aliza A R; Stanley David W

CORPORATE SOURCE: Insect Biochemical Physiology Laboratory, University of

Nebraska, Lincoln 68583-0816, USA.

SOURCE: Archives of insect biochemistry and physiology, (2003 Jan)

Vol. 52, No. 1, pp. 1-6.

Journal code: 8501752. ISSN: 0739-4462.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200303

ENTRY DATE: Entered STN: 19 Dec 2002

Last Updated on STN: 4 Mar 2003 Entered Medline: 3 Mar 2003

AΒ Intracellular phospholipase A(2) (PLA(2)) is responsible for releasing arachidonic acid from cellular phospholipids, and is thought to be the first step in eicosanoid biosynthesis. Intracellular PLA(2)s have been characterized in fat body and hemocytes from tobacco hornworms, Manduca sexta. Here we show that bacterial challenge stimulated increased PLA(2) activity in isolated hemocyte preparations, relative to control hemocyte preparations that were challenged with water. The increased activity was detected as early as 15 s post-challenge and lasted for at least 1 h. increased activity depended on a minimum bacterial challenge dose, and was inhibited in reactions conducted in the presence of oleyoxyethylphosphorylcholine, a site-specific PLA(2) inhibitor. independent experiments with serum prepared from whole hemolymph, we found no PLA(2) activity was secreted into serum during the first 24 h following bacterial infection. We infer that a hemocytic intracellular PLA(2) activity is increased immediately an infection is detected. The significance of this enzyme lies in its role in launching the biosynthesis of eicosanoids, which mediate cellular immune reactions to bacterial

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infection.

L2 ANSWER 6 OF 27 MEDLINE on STN ACCESSION NUMBER: 2002147899 MEDLINE DOCUMENT NUMBER: PubMed ID: 11841807

TITLE: Identification of the phospholipase A(2) isoforms that

contribute to arachidonic acid release in hypoxic

endothelial cells: limits of phospholipase A(2) inhibitors.

AUTHOR: Michiels Carine; Renard Patricia; Bouaziz Najat; Heck

Nathalie; Eliaers Francois; Ninane Noelle; Quarck Rozenn;

Holvoet Paul; Raes Martine

CORPORATE SOURCE: Laboratoire de Biochimie et Biologie Cellulaire, Facultes

Universitaires Notre Dame de la Paix, 61 rue de Bruxelles,

5000, Namur, Belgium.. carine.michiels@fundp.ac.be

SOURCE: Biochemical pharmacology, (2002 Jan 15) Vol. 63, No. 2, pp.

321-32.

Journal code: 0101032. ISSN: 0006-2952.

PUB. COUNTRY: England: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200203

ENTRY DATE: Entered STN: 8 Mar 2002

Last Updated on STN: 3 Apr 2002 Entered Medline: 27 Mar 2002

Changes in endothelium functions during ischemia are thought to be of AΒ importance in numerous pathological conditions, with, for instance, an increase in the release of inflammatory mediators like prostaglandins. Here, we showed that hypoxia increases phospholipase A(2) (PLA(2)) activity in human umbilical vein endothelial cells. Both basal PLA(2) activity and PG synthesis are sensitive to BEL and AACOCF3, respectively, inhibitors of calcium-independent PLA(2) (iPLA(2)) and cytosolic PLA(2) (cPLA(2)), while OPC, an inhibitor of soluble PLA(2) (sPLA(2)) only inhibited the hypoxia-induced AA release and PGF (2alpha) synthesis. Hypoxia does not alter expression of iPLA(2), sPLA(2) and cPLA(2) and cycloheximide did not inhibit PLA(2) activation, indicating that hypoxia-induced increase in PLA(2) activity is due to activation rather than induction. However, mRNA levels for sPLA(2) displayed a 2-fold increase after 2 hr incubation under hypoxia. BAPTA, an intracellular calcium chelator, partially inhibited the AA release in normoxia and in hypoxia. Direct assays of specific PLA(2) activity showed an increase in sPLA(2) activity but not in cPLA(2) activity after 2hr hypoxia. Taken together, these results indicate that the hypoxia-induced increase in PLA(2) activity is mostly due to the activation of sPLA(2).

L2 ANSWER 7 OF 27 MEDLINE on STN ACCESSION NUMBER: 2001301904 MEDLINE DOCUMENT NUMBER: PubMed ID: 11226404

TITLE: The involvement of phospholipase A(2) in ethanol-induced

gastric muscle contraction.

AUTHOR: Sim S S; Choi J C; Min D S; Rhie D J; Yoon S H; Hahn S J;

Kim C J; Kim M S; Jo Y H

CORPORATE SOURCE: Department of Pathophysiology, College of Pharmacy,

Chung-Ang University, 221 Huksuk-dong, Dongjak-gu, Seoul

156-756, South Korea.

SOURCE: European journal of pharmacology, (2001 Feb 16) Vol. 413,

No. 2-3, pp. 281-5.

Journal code: 1254354. ISSN: 0014-2999.

PUB. COUNTRY: Netherlands

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

(RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200105

ENTRY DATE: Entered STN: 4 Jun 2001

Last Updated on STN: 4 Jun 2001 Entered Medline: 31 May 2001

AB To understand the underlying mechanism of ethanol in tonic contraction, the effect of ethanol on phospholipase A(2) and phospholipase C activities and the effects of phospholipase inhibitors on ethanol-induced contraction of cat gastric smooth muscle were tested. Circular muscle strips (2.0 \times 0.2 cm) obtained from the fundus of cat stomach were used to measure isometric contraction. Ethanol elicited tonic contraction and activated phospholipase A(2) activity in a dose-dependent manner. Phospholipase A(2) inhibitors, manualide (0.1--10 microM) and oleyloxyethyl phosphorylcholine (1--10 microM), significantly inhibited ethanol-induced contraction. Furthermore, 342 mM ethanol-induced contraction was significantly inhibited by cyclooxygenase inhibitors, ibuprofen (10--100 microM) and indomethacin (10--100 microM), but not by lipoxygenase inhibitors. On the other hand, phospholipase C inhibitors had no effect on ethanol-induced contraction, indicating that phospholipase C is not involved in ethanol-induced contraction. It is suggested from the above results that ethanol-induced contraction in cat gastric smooth muscle is, in part, mediated by phospholipase A(2) and cyclooxygenase pathways.

DOCUMENT NUMBER: PubMed ID: 10991918

TITLE: Investigation into the involvement of phospholipases A(2)

and MAP kinases in modulation of AA release and cell growth

in A549 cells.

AUTHOR: Choudhury Q G; McKay D T; Flower R J; Croxtall J D

CORPORATE SOURCE: Department of Biochemical Pharmacology, The William Harvey

Research Institute, St. Bartholomew's and the Royal London School of Medicine and Dentistry (Queen Mary and Westfield

College), Charterhouse Square, London EC1M 6BQ.

SOURCE: British journal of pharmacology, (2000 Sep) Vol. 131, No.

2, pp. 255-65.

Journal code: 7502536. ISSN: 0007-1188.

PUB. COUNTRY: ENGLAND: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200102

ENTRY DATE: Entered STN: 22 Mar 2001

Last Updated on STN: 22 Mar 2001 Entered Medline: 22 Feb 2001

AΒ 1. We have investigated the contribution of specific PLA(2)s to eicosanoid release from A549 cells by using specific inhibitors of secretory PLA(2) (ONO-RS-82 and oleyloxyethylphosphocholine), cytosolic PLA(2) (AACOCF(3) and MAFP) and calcium-independent PLA(2) (HELSS, MAFP and PACOCF(3)). Similarly, by using specific inhibitors of p38 MAPK (SB 203580), ERK1/2 MAPK (Apigenin) and MEK1/2 (PD 98059) we have further evaluated potential pathways of AA release in this cell line. 2. ONO-RS-82 and oleyloxyethylphosphocholine had no significant effect on EGF or IL-1beta stimulated (3)H-AA or PGE(2) release or cell proliferation. AACOCF(3), HELSS, MAFP and PACOCF(3) significantly inhibited both EGF and IL-1beta stimulated (3)H-AA and PGE(2) release as well as cell proliferation. Apigenin and PD 98509 significantly inhibited both EGF and IL-1beta stimulated (3) H-AA and PGE(2) release and cell proliferation whereas, SB 203580 had no significant effect on EGF or IL-1beta stimulated (3)H-AA release, or cell proliferation but significantly suppressed EGF or IL-1beta stimulated PGE(2) release. 3. These results confirm that the liberation of AA release, generation of PGE(2) and cell proliferation is mediated largely through the actions of cPLA(2) whereas, sPLA(2) plays no significant role. We now also report a hitherto unsuspected contribution of iPLA(2) to this process and demonstrate that the stimulating action of EGF and IL-1beta in AA release and cell proliferation is mediated in part via a MEK and ERK-dependent pathway (but not through p38MAPK). We therefore propose that selective inhibitors of MEK and MAPK pathways may be useful in controlling AA release, eicosanoid production and cell proliferation.

L2 ANSWER 9 OF 27 MEDLINE on STN ACCESSION NUMBER: 2000106581 MEDLINE DOCUMENT NUMBER: PubMed ID: 10643787

TITLE: Novel strategies for opposing murine microglial activation.

AUTHOR: Paris D; Town T; Mullan M

CORPORATE SOURCE: The Roskamp Institute, University of South Florida, Tampa

33613, USA.. dparis@com1.med.usf.edu

SOURCE: Neuroscience letters, (2000 Jan 7) Vol. 278, No. 1-2, pp.

5-8.

Journal code: 7600130. ISSN: 0304-3940.

PUB. COUNTRY: Ireland

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200002

ENTRY DATE: Entered STN: 9 Mar 2000

Last Updated on STN: 9 Mar 2000 Entered Medline: 22 Feb 2000

Pathologic microglial activation is believed to contribute to progressive AB neuronal damage in neurodegenerative diseases by the release of potentially neurotoxic agents, such as pro-inflammatory cytokines including tumor necrosis factor alpha (TNF-alpha). Using cultured N9 microglial cells, we have examined the regulation of TNF-alpha following endotoxic insult with lipopolysacharide (LPS), focusing on the role of the pro-inflammatory phospholipase A2/mitogen activated protein kinase/arachidonic acid/cyclo-oxygenase-2 cascade and the nitric oxide/cGMP pathway. Data show that various inhibitors of the PLA2 cascade markedly inhibit LPS-induced TNF-alpha release, supporting a key role of this pathway in the regulation of microglial activation. We also investigated the putative effects of cGMP-elevating agents on blocking microglial activation induced by LPS. Data show that each member of this class of cGMP-elevating compounds that we employed opposed microglial TNF-alpha release, suggesting that strengthening intracellular cGMP signaling mitigates against microglial activation. Taken together, our results suggest novel strategies for reducing microglial activation.

L2 ANSWER 10 OF 27 MEDLINE on STN ACCESSION NUMBER: 1999318341 MEDLINE DOCUMENT NUMBER: PubMed ID: 10391457

TITLE: Involvement of axonal phospholipase A2 activity in the

outgrowth of adult mouse sensory axons in vitro.

AUTHOR: Hornfelt M; Ekstrom P A; Edstrom A

CORPORATE SOURCE: Department of Animal Physiology, Lund University, Sweden.

SOURCE: Neuroscience, (1999) Vol. 91, No. 4, pp. 1539-47.

Journal code: 7605074. ISSN: 0306-4522.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

(RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199908

ENTRY DATE: Entered STN: 10 Sep 1999

Last Updated on STN: 10 Sep 1999 Entered Medline: 24 Aug 1999

AΒ The effect on axonal outgrowth of inhibition of phospholipase A2 activity was studied in a recently developed in vitro model, where dorsal root ganglia with attached spinal roots and nerve stumps from young adult mice were cultured in an extracellular matrix material (Matrigel). The phospholipase A2 inhibitors 4-bromophenacyl bromide and oleyloxyethyl phosphorylcholine dose-dependently reduced axonal outgrowth from the sciatic nerve stump. A similar inhibitory effect was seen when only the cut nerve end was exposed to the inhibitors in a compartmental culture system. The local effect of phospholipase A2 inhibition was further investigated on axons established in culture, using time-lapse recording. Exposure to phospholipase A2 inhibitors caused the retraction of filopodia extensions and a reduction in growth cone motility within a few minutes. After removal of inhibition, normal growth cone motility and axonal growth were regained. Nerve cell bodies and axons, in contrast to Schwann cells, showed immunoreactivity after staining with an antiserum against secretory phospholipase A2, and elevated levels of the enzyme could be detected after culture for 24 h. The immunoreactive protein was of approximately 170,000 molecular weight (phospholipase A2-170) as determined by sodium dodecyl sulphate-polyacrylamide gel electrophoresis and immunoblotting. The localization of phospholipase A2-170 in axons growing into the Matrigel was also demonstrated by use of a whole-mount technique. results of this study show the importance of continuous phospholipase A2 activity for growth cone motility and axonal outgrowth in the mammalian

peripheral nerve, and suggest the involvement of an axonally localized enzyme.

L2 ANSWER 11 OF 27 MEDLINE on STN ACCESSION NUMBER: 1999217849 MEDLINE DOCUMENT NUMBER: PubMed ID: 10203186

TITLE: Role of endothelial factors in the specific response of mouse tumour-feeding arterioles to stimulation of 5-HT1

receptors.

AUTHOR: Laemmel E; Stucker O; Vicaut E

CORPORATE SOURCE: Dept de Biophysique et INSERM U141, Hopital F. Widal,

Paris, France.

SOURCE: International journal of radiation biology, (1999 Mar) Vol.

75, No. 3, pp. 365-71.

Journal code: 8809243. ISSN: 0955-3002.

PUB. COUNTRY: ENGLAND: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals; Space Life Sciences

ENTRY MONTH: 199904

ENTRY DATE: Entered STN: 11 May 1999

Last Updated on STN: 11 May 1999 Entered Medline: 29 Apr 1999

AB PURPOSE: To investigate the possible role of endothelial mediators on the increased vasoconstriction to 5-HT1 receptor stimulation by the host-modified arterioles feeding a Meth-A tumour implanted in the flank of female Balb/c mice. MATERIALS AND METHODS: Using intravital microscopy, the response to the topical administration of the general $5-\mathrm{HT}1$ agonist 5-carboxamidotryptamine maleate (5-CT; 10(-6) M to 10(-4) M) by the tumour-feeding arterioles with the responses of tumour-independent arterioles and those of control arterioles from mice without tumour after antagonization or inhibition of the synthesis of endothelial mediators was compared. RESULTS: The dramatically higher vasoconstriction to 5-CT observed in tumour-feeding arterioles than in tumour-independent or control arterioles still persisted when either nitric oxide synthase, cyclooxygenase, lipoxygenase, or phospholipase A2 were inhibited or when thromboxane A2 or endothelin were antagonized. CONCLUSIONS: It was concluded that the higher reactivity to 5-HT1 stimulation by tumour-feeding arterioles is not due to changes in endothelial mediator release but probably due to changes affecting arteriolar smooth muscle.

L2 ANSWER 12 OF 27 MEDLINE on STN ACCESSION NUMBER: 1998363084 MEDLINE DOCUMENT NUMBER: PubMed ID: 9699504

TITLE: Arachidonic acid is an autocoid mediator of the

differential action of 1,25-(OH)2D3 and 24,25-(OH)2D3 on

growth plate chondrocytes.

AUTHOR: Boyan B D; Sylvia V L; Curry D; Chang Z; Dean D D; Schwartz

Ζ

CORPORATE SOURCE: Department of Orthopaedics, The University of Texas Health

Science Center at San Antonio, 78284-7774, USA..

messier@uthscsa.edu

CONTRACT NUMBER: DE-05937 (United States NIDCR)
DE-08603 (United States NIDCR)

SOURCE: Journal of cellular physiology, (1998 Sep) Vol. 176, No. 3,

pp. 516-24.

Journal code: 0050222. ISSN: 0021-9541.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

(RESEARCH SUPPORT, NON-U.S. GOV'T) (RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199808

ENTRY DATE: Entered STN: 3 Sep 1998

Last Updated on STN: 3 Mar 2000 Entered Medline: 21 Aug 1998

Prior studies have shown that 24,25-(OH)2D3 and 1,25-(OH)2D3 regulate AΒ protein kinase C (PKC) in costochondral chondrocytes in a cell maturation-dependent manner, with 1,25-(OH)2D3 affecting primarily growth zone (GC) cells and 24,25-(OH)2D3 affecting primarily resting zone (RC) cells. In addition, 1,25-(OH)2D3 has been shown to increase phospholipase A2 activity in GC, while 24,25-(OH)2D3 has been shown to decrease phospholipase A2 activity in RC. Stimulation of phospholipase A2 in GC caused an increase in PKC, whereas inhibition of phospholipase A2 activity in RC cultures increased both basal and 24,25-(OH)2D3-induced PKC activity, suggesting that phospholipase A2 may play a central role in mediating the effects of the vitamin D metabolites on PKC. To test this hypothesis, RC and GC cells were cultured in the presence and absence of phospholipase A2 inhibitors (quinacrine and oleyloxyethylphosphorylcholine [OEPC]), phospholipase A2 activators (melittin and mastoparan), or arachidonic acid alone or in the presence of the target cell-specific vitamin D metabolite. PKC specific activity in the cell layer was determined as a function of time. Phospholipase A2 inhibitors decreased both basal and 1,25-(OH)2D3-induced PKC activity in GC. When phospholipase A2 activity was activated by inclusion of melittin or mastoparan in the cultures, basal PKC activity in RC was reduced, while that in GC was increased. Similarly, melittin and mastoparan decreased 24,25-(OH)2D3-induced PKC activity in RC and increased 1,25-(OH)2D3-induced PKC activity in GC. For both cell types, the addition of arachidonic acid to the culture media produced an effect on PKC activity that was similar to that observed when phospholipase A2 activators were added to the cells. These results demonstrate that vitamin D metabolite-induced changes in phospholipase A2 activity are directly related to changes in PKC activity. Similarly, exogenous arachidonic acid affects PKC in a manner consistent with activation of phospholipase A2. These effects are cell maturation- and time-dependent and metabolite-specific.

L2 ANSWER 13 OF 27 MEDLINE on STN ACCESSION NUMBER: 1991183640 MEDLINE DOCUMENT NUMBER: PubMed ID: 1901255

TITLE: Inhibitors of cytochrome P-450 attenuate the myogenic

response of dog renal arcuate arteries.

AUTHOR: Kauser K; Clark J E; Masters B S; Ortiz de Montellano P R;

Ma Y H; Harder D R; Roman R J

CORPORATE SOURCE: Department of Physiology, Medical College of Wisconsin,

Milwaukee 53226.

CONTRACT NUMBER: HL-29587 (United States NHLBI)

HL-33833 (United States NHLBI)
HL-36279 (United States NHLBI)

+

SOURCE: Circulation research, (1991 Apr) Vol. 68, No. 4, pp.

1154-63.

Journal code: 0047103. ISSN: 0009-7330.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199105

ENTRY DATE: Entered STN: 26 May 1991

Last Updated on STN: 3 Feb 1997

Entered Medline: 8 May 1991

The role of cytochrome P-450 in the myogenic response of isolated, AB perfused renal arcuate arteries of dogs to elevations in transmural pressure was examined. The phospholipase A2 inhibitor oleyloxyethylphosphorylcholine (1 and 10 microM) inhibited the greater than threefold increase in active wall tension in these arteries after an elevation in perfusion pressure from 80 to 160 mm Hq. Inhibition of cyclooxygenase activity with indomethacin (1 or 10 microM) had no effect on this response. The cytochrome P-450 inhibitors ketoconazole (10 and 100 microM) and beta-diethyl-aminoethyldiphenylpropylacetate (SKF 525A, 10 and 100 microM) also inhibited the myogenic response. At a pressure of 160 mm Hg, SKF 525A (10 microM) and ketoconazole (100 microM) reduced active wall tension in renal arteries by approximately 70%. Partial inhibition of the myogenic response was obtained after perfusion of the vessels with mechanism-based inhibitors of P-450, 1-aminobenzotriazole (75 microM) and 12-hydroxy-16-heptadecynoic acid (20 microM). The thromboxane receptor antagonist SQ 29,548 (1 or 10 microM) had no effect on the pressure-induced increase in active wall tension in renal arteries. Arachidonic acid (50 microM) constricted isolated perfused renal arteries and potentiated the myogenic response in the presence of indomethacin. This response was completely reversed by ketoconazole (100 microM) or SKF 525A (100 microM). Microsomes (1 mg/ml) prepared from small renal arteries (200-500 microns) and incubated with [1-14C]arachidonic acid (0.5 mu Ci, 50 microM) produced a metabolite that coeluted with 20-hydroxyeicosatetraenoic acid (20-HETE) during reversed-phase high-performance liquid chromatography. The formation of this product was inhibited by both ketoconazole and SKF 525A at concentrations of 10 and 100 microM. These results are consistent with the involvement of the vasoconstrictor 20-HETE and other cytochrome P-450metabolites of endogenous fatty acids in the myogenic response.

L2 ANSWER 14 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:829238 CAPLUS

DOCUMENT NUMBER: 141:329077

TITLE: Interactions of 12-lipoxygenase with phospholipase A2

isoforms following platelet activation through the

glycoprotein VI collagen receptor

AUTHOR(S): Coffey, Marcus J.; Coles, Barbara; Locke, Matthew;

Bermudez-Fajardo, Alexandra; Williams, P. Claire;

Jarvis, Gavin E.; O'Donnell, Valerie B.

CORPORATE SOURCE: Department of Medical Biochemistry and Immunology,

Wales College of Medicine, Cardiff University,

Cardiff, CF14 4XN, UK

SOURCE: FEBS Lett. (2004), 576(1-2), 165-168

CODEN: FEBLAL; ISSN: 0014-5793

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

AB Recent studies implicate the collagen receptor, glycoprotein VI (GPVI) in activation of platelet 12-lipoxygenase (p12-LOX). Herein, we show that GPVI-stimulated 12-hydro(peroxy)eicosatetraenoic acid (H(P)ETE) synthesis is inhibited by palmityl trifluromethyl ketone or oleyloxyethylphosphocholine, but not bromoenol lactone, implicating secretory and cytosolic, but not calcium-independent phospholipase A2 (PLA2) isoforms. Also, following GPVI activation, 12-LOX co-immunoppts. with both cytosolic and secretory PLA2 (sPLA2). Finally, venoms containing sPLA2 acutely activate p12-LOX in a dose-dependent manner. This study shows that platelet 12-H(P)ETE generation utilizes arachidonate substrate from both c- and sPLA2 and that 12-LOX functionally assocs. with both PLA2 isoforms.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 15 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:748810 CAPLUS

DOCUMENT NUMBER: 142:129558

TITLE: Phospholipase A2 in salivary glands isolated from

tobacco hornworms, Manduca sexta

AUTHOR(S): Tunaz, Hasan; Stanley, David W.

CORPORATE SOURCE: Insect Biochemical Physiology Laboratory, University

of Nebraska-Lincoln, Lincoln, NE, 68583-0816, USA Comparative Biochemistry and Physiology, Part B: Biochemistry & Molecular Biology (2004), 139B(1),

27 - 33

CODEN: CBPBB8; ISSN: 1096-4959

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

SOURCE:

SOURCE:

AB A phospholipase A2 (PLA2) associated with the salivary glands of M. sexta is described. This enzyme was able to hydrolyze arachidonic acid from the sn-2 position of phospholipases. The addition of the Ca2+-chelator, EGTA, or Ca2+, to the Tris reaction buffer impaired the PLA2 activity, from which it was inferred that the enzyme required very low concns. of Ca2+ or perhaps other ions for optimal activity. PLA2 activity was sensitive to protein concentration (highest activity at 25 μg protein/ μL), reaction time (optimal at 30 min), buffer pH (optimal at pH 8-10), and reaction temperature (optimal range 18-38°). The salivary gland PLA2 was sensitive to the site-specific inhibitor, oleyloxyethylphosphorylcholine and stable to freezing at -80°, but not -20°. The biol. significance of this enzyme may relate to hydrolysis of fatty acid moieties from dietary phospholipases for absorption by midgut epithelia. This salivary gland enzyme may also be responsible for killing food-borne bacteria.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 16 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:447810 CAPLUS

DOCUMENT NUMBER: 139:286724

TITLE: $1\alpha, 25 \text{ (OH) 2D3 }$ causes a rapid increase in

phosphatidylinositol-specific PLC- β activity via

phospholipase A2-dependent production of

lysophospholipid

AUTHOR(S): Schwartz, Z.; Shaked, D.; Hardin, R. R.; Gruwell, S.;

Dean, D. D.; Sylvia, V. L.; Boyan, B. D.

CORPORATE SOURCE: Department of Biomedical Engineering, Georgia
Institute of Technology, Atlanta, GA, 30332, USA

Steroids (2003), 68(5), 423-437

CODEN: STEDAM; ISSN: 0039-128X

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

AB $1\alpha,25$ (OH) 2D3 activates protein kinase C (PKC) in rat growth plate chondrocytes via mechanisms involving phosphatidylinositol-specific phospholipase C (PI-PLC) and phospholipase A2 (PLA2). The purpose of this study was to determine if $1\alpha,25$ (OH) 2D3 activates PI-PLC directly or through a PLA2-dependent mechanism. We determined which PLC isoforms are present in the growth plate chondrocytes, and determined which isoform(s) of PLC is (are) regulated by $1\alpha,25$ (OH) 2D3. Inhibitors and activators of PLA2 were used to assess the inter-relationship between these two phospholipid-signaling pathways. PI-PLC activity in lysates of pre-hypertrophic and upper hypertrophic zone (growth zone) cells that were incubated with $1\alpha,25$ (OH) 2D3, was increased within 30 s with peak activity at 1-3 min. PI-PLC activity in resting zone cells was unaffected

by $1\alpha, 25$ (OH) 2D3. $1\beta, 25$ (OH) 2D3, 24R, 25 (OH) 2D3, actinomycin D and cycloheximide had no effect on PLC in lysates of growth zone cells. Thus, 1α , 25(OH)2D3 regulation of PI-PLC enzyme activity is stereospecific, cell maturation-dependent, and nongenomic. PLA2-activation (mastoparan or melittin) increased PI-PLC activity to the same extent as 1α , 25 (OH) 2D3; PLA2-inhibition (quinacrine, oleyloxyethylphosphorylcholine (OEPC), or AACOCF3) reduced the effect of $1\alpha, 25$ (OH) 2D3. Neither arachidonic acid (AA) nor its metabolites affected PI-PLC. In contrast, lysophosphatidylcholine (LPC) and lysophosphatidylethanolamine (LPE) activated PI-PLC (LPE>LPC). $1\alpha, 25$ (OH) 2D3 stimulated PI-PLC and PKC activities via Gq; GDP β S inhibited activity, but pertussis toxin did not. RT-PCR showed that the cells express PLC- β 1a, PLC- β 1b, PLC- β 3 and PLC- γ 1 mRNA. Antibodies to PLC- β 1 and PLC- β 3 blocked the $1\alpha,25\,\text{(OH)}\,\text{2D3}$ effect; antibodies to PLC-8 and PLC- γ did not. Thus, 1α , 25(OH)2D3 regulates PLC- β through PLA2-dependent production of lysophospholipid.

REFERENCE COUNT: 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 17 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:112769 CAPLUS

DOCUMENT NUMBER: 139:346941

TITLE: Enzymatic activity and inhibition of the neurotoxic

complex vipoxin from the venom of Vipera ammodytes

meridionalis

AUTHOR(S): Noetzel, Corinna; Chandra, Vikas; Perbandt, Markus;

Rajashankar, Kanagalaghatta; Singh, Tej; Aleksiev, Boris; Kalkura, Narayana; Genov, Nicolay; Betzel,

Christian

CORPORATE SOURCE: Institute of Medical Biochemistry and Molecular

Biology, University Hospital Eppendorf, Hamburg,

22603, Germany

SOURCE: Zeitschrift fuer Naturforschung, C: Journal of

Biosciences (2002), 57(11/12), 1078-1083

CODEN: ZNCBDA; ISSN: 0939-5075

PUBLISHER: Verlag der Zeitschrift fuer Naturforschung

DOCUMENT TYPE: Journal LANGUAGE: English

Vipoxin from the venom of Vipera ammodytes meridionalis is an unique neurotoxic complex between a toxic phospholipase A2 and a highly homologous non-toxic protein inhibitor. It is an example of evolution of a catalytic and toxic function into inhibitory and non-toxic one. The activity of the V. ammodytes meridionalis toxin is 1.7 times higher than that of the closely related (92% sequence identity) neurotoxic complex RV4/RV7 from the venom of Vipera russelli formosensis. The enhanced enzymic activity of vipoxin is attributed to limited structural changes, in particular to the substitutions G54R and Q78K in the PLA2 subunit of the complex and to the T54R substitution in the inhibitor. Oleyloxyethylphosphocholine, aristolochic acid and vitamin E suppressed the enzymic activity of vipoxin and its isolated PLA2 subunit. These compds. influence inflammatory processes in which PLA2 is implicated. The peptide Lys-Ala-Ile-Tyr-Ser, which is an integral part of the PLA2 components of the two neurotoxic complexes from V. ammodytes meridionalis and V. russelli formosensis (sequence 70-74) activated vipoxin increasing its PLA2 activity by 23%. This is in contrast to the inhibitory effect of the resp. pentapeptides with 70-74 sequences on other group II PLA2s. Surprisingly, the same peptide inhibited 46% of the V. russelli formosensis PLA2 activity. The limited changes in the structure of the two highly homologous neurotoxins lead to considerable differences in their interaction with native peptides.

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS

L2 ANSWER 18 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:735786 CAPLUS

DOCUMENT NUMBER: 133:345041

TITLE: Investigation into the involvement of phospholipases

A2 and MAP kinases in modulation of AA release and

cell growth in A549 cells

AUTHOR(S): Choudhury, Qamrul G.; Mckay, Diane T.; Flower,

Roderick J.; Croxtall, Jamie D.

CORPORATE SOURCE: Department of Biochemical Pharmacology, The William

Harvey Research Institute, St. Bartholomew's and the Royal London School of Medicine and Dentistry (Queen Mary and Westfield College, London, EC1M 6BQ, UK

SOURCE: British Journal of Pharmacology (2000), 131(2),

255-265

CODEN: BJPCBM; ISSN: 0007-1188

PUBLISHER: Nature Publishing Group

DOCUMENT TYPE: Journal LANGUAGE: English

eicosanoid release from A549 cells by using specific inhibitors of secretory PLA2 (ONO-RS-82 and oleyloxyethylphosphocholine), cytosolic PLA2 (AACOCF3 and MAFP) and calcium-independent PLA2 (HELSS, MAFP and PACOCF3). Similarly, by using specific inhibitors of p38 MAPK

The authors have investigated the contribution of specific PLA2s to

(SB 203580), ERK1/2 MAPK (Apigenin) and MEK1/2 (PD 98059) the authors have further evaluated potential pathways of AA release in this cell line. ONO-RS-82 and oleyloxyethylphosphocholine had no significant effect on EGF or IL-1 β stimulated 3H-AA or PGE2 release or cell proliferation. AACOCF3, HELSS, MAFP and PACOCF3 significantly inhibited

both EGF and IL-1 β stimulated 3H-AA and PGE2 release as well as cell proliferation. Apigenin and PD 98509 significantly inhibited both EGF and IL-1 β stimulated 3H-AA and PGE2 release and cell proliferation, whereas, SB 203580 had no significant effect on EGF or IL-1 β

stimulated 3H-AA release, or cell proliferation but significantly suppressed EGF or IL-1 β stimulated PGE2 release. These results confirm that the liberation of AA release, generation of PGE2 and cell proliferation is mediated largely through the actions of cPLA2 whereas, sPLA2 plays no significant role. The authors now also report a hitherto

unsuspected contribution of iPLA2 to this process and demonstrate that the stimulating action of EGF and IL-1 β in AA release and cell proliferation is mediated in part via a MEK and ERK-dependent pathway (but

not through p38MAPK). The authors therefore propose that selective inhibitors of MEK and MAPK pathways may be useful in controlling AA release, eicosanoid production and cell proliferation.

REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 19 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:641140 CAPLUS

DOCUMENT NUMBER: 132:21206

TITLE: Tissue polyunsaturated fatty acids and a digestive

phospholipase A2 in the primary screwworm, Cochliomyia

hominivorax

AUTHOR(S): Nor Aliza, A. R.; Rana, R. L.; Skoda, S. R.;

Berkebile, D. R.; Stanley, D. W.

CORPORATE SOURCE: Insect Biochemical Physiology Laboratory, University

of Nebraska, Lincoln, NE, USA

SOURCE: Insect Biochemistry and Molecular Biology (1999),

29(11), 1029-1038

CODEN: IBMBES; ISSN: 0965-1748

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal LANGUAGE: English

The authors report on the presence of arachidonic acid in larval and adult tissues of the primary screwworm, Cochliomyia hominivorax, and of the secondary screwworm, C. macellaria. Arachidonic acid is present in the phospholipids of whole animal exts. of both species. This fatty acid appears to be accumulated during the larval stages, because proportions of arachidonic acid were higher in adults than in larvae. These insects probably obtain the arachidonic acid from dietary phospholipids. The authors also report on a phospholipase A2 activity in midgut prepns. from third instars of the primary screwworm. Phospholipase A2 is responsible for hydrolyzing fatty acids from the sn-2 position of dietary phospholipids to release essential fatty acids. The screwworm enzyme is similar to mammalian digestive phospholipase A2 because it depends on calcium for high catalytic activity, it is sensitive to the site-specific inhibitor oleyloxyethylphosphorylcholine, and it interacts with heparin. The authors further characterized the screwworm midgut phospholipase A2 by altering the reaction conditions, including reaction time, radioactive substrate concentration, protein concentration, pH and temperature The

authors speculate that the biol. significance of this enzyme relates to acquiring essential fatty acids, including arachidonic acid, from dietary phospholipids.

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 20 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:626204 CAPLUS

DOCUMENT NUMBER: 129:328495

ORIGINAL REFERENCE NO.: 129:66942h,66943a

TITLE: A digestive phospholipase A2 in larval mosquitoes,

Aedes aegypti

AUTHOR(S): Aliza, A. R. Nor; Stanley, David W.

CORPORATE SOURCE: Insect Biochemical Physiology Laboratory, Department

of Entomology, University of Nebraska, Lincoln, NE,

68583-0816, USA

SOURCE: Insect Biochemistry and Molecular Biology (1998),

28(8), 561-569

CODEN: IBMBES; ISSN: 0965-1748

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal LANGUAGE: English

We report on the presence of phospholipase A2 activity in whole larva and midguts of the yellow fever mosquito A. aegypti. Phospholipase A2 is responsible for hydrolyzing fatty acids from the sn-2 position of dietary phospholipids to release essential fatty acids for normal larval and adult growth. In contrast to the mammalian digestive phospholipase A2 background, the A. aegypti phospholipase A2 was Ca2+ independent. We further characterized the mosquito midgut phospholipase A2 by altering the reaction conditions including incubation time, protein concns., pH, and temperature The site-specific PLA2 inhibitor oleyloxyethylphosphorylcholine failed to inhibit the enzyme at concns. <5000 $\mu \rm M$. The phospholipase A2 activity was consistently high throughout the 4th instar, but fell to very low levels on the 1st day of pupation which is a non-feeding stage. The enzyme is regulated with respect to feeding activity because fasting and re-feeding modified the larval digestive PLA2 activity.

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 21 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 1998:503604 CAPLUS

DOCUMENT NUMBER: 129:226089

ORIGINAL REFERENCE NO.: 129:45841a,45844a

TITLE: Arachidonic acid is an autocoid mediator of the

differential action of 1,25-(OH)2D3 and 24,25-(OH)2D3

on growth plate chondrocytes

AUTHOR(S): Boyan, B. D.; Sylvia, V. L.; Curry, D.; Chang, Z.;

Dean, D. D.; Schwartz, Z.

CORPORATE SOURCE: Department of Orthopaedics, The University of Texas

Health Science Center at San Antonio, San Antonio, TX,

78284-7774, USA

SOURCE: Journal of Cellular Physiology (1998), 176(3), 516-524

CODEN: JCLLAX; ISSN: 0021-9541

PUBLISHER: Wiley-Liss, Inc.

DOCUMENT TYPE: Journal LANGUAGE: English

Prior studies have shown that 24,25-(OH)2D3 and 1,25-(OH)2D3 regulate protein kinase C (PKC) in costochondral chondrocytes in a cell maturation-dependent manner, with 1,25-(OH)2D3 affecting primarily growth zone (GC) cells and 24,25-(OH)2D3 affecting primarily resting zone (RC) cells. In addition, 1,25-(OH)2D3 has been shown to increase phospholipase A2 activity in GC, while 24,25-(OH)2D3 has been shown to decrease phospholipase A2 activity in RC. Stimulation of phospholipase A2 in GC caused an increase in PKC, whereas inhibition of phospholipase A2 activity in RC cultures increased both basal and 24,25-(OH)2D3-induced PKC activity, suggesting that phospholipase A2 may play a central role in mediating the effects of the vitamin D metabolites on PKC. To test this hypothesis, RC and GC cells were cultured in the presence and absence of phospholipase A2 inhibitors (quinacrine and oleyloxyethylphosphorylcholine [OEPC]), phospholipase A2 activators (melittin and mastoparan), or arachidonic acid alone or in the presence of the target cell-specific vitamin D metabolite. PKC specific activity in the cell layer was determined as a function of time. Phospholipase A2 inhibitors decreased both basal and 1,25-(OH)2D3-induced PKC activity in GC. When phospholipase A2 activity was activated by inclusion of melittin or mastoparan in the cultures, basal PKC activity in RC was reduced, while that in GC was increased. Similarly, melittin and mastoparan decreased 24,25-(OH)2D3-induced PKC activity in RC and increased 1,25-(OH)2D3-induced PKC activity in GC. For both cell types, the addition of arachidonic acid to the culture media produced an effect on PKC activity that was similar to that observed when phospholipase A2 activators were added to the cells. These results demonstrate that vitamin D metabolite-induced changes in phospholipase A2 activity are directly related to changes in PKC activity. Similarly, exogenous arachidonic acid affects PKC in a manner consistent with activation of phospholipase A2. These effects are cell maturation- and time-dependent and metabolite-specific.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 22 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:481432 CAPLUS

DOCUMENT NUMBER: 129:186925

ORIGINAL REFERENCE NO.: 129:37913a,37916a

TITLE: A digestive phospholipase A2 in midguts of tobacco

hornworms, Manduca sexta L.

AUTHOR(S): Rana, Rico L.; Sarath, Gautam; Stanley, David W.

CORPORATE SOURCE: Insect Biochemistry/Physiology Laboratory, Department

of Entomology, University of Nebraska, Lincoln, NE,

68583-0816, USA

SOURCE: Journal of Insect Physiology (1998), 44(3-4), 297-303

CODEN: JIPHAF; ISSN: 0022-1910

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal LANGUAGE: English

We hypothesized that phospholipase A2 (PLA2) is a common feature of insect digestive physiol. PLA2 hydrolyzes polyunsatd. fatty acids (PUFAs) associated with the sn-2 position of phospholipids (PLs). We describe here a PLA2 from midgut contents of the tobacco hornworm, M. sexta. The enzyme is sensitive to pH (inactivated at low pH), protein concentration (<1.6 μg/μl), substrate concentration (<1.4 nmol/reaction), temperature (<30°), and incubation time. PLA2 activity is higher in fed than in starved larvae, and enzyme activity is associated with the midgut contents, rather than the midgut epithelium of fed larvae. All known secretory PLA2s, except for a PLA2 in venom of the marine snail, Conus magus, require high calcium concns. for catalysis, but the Manduca PLA2 appears to be calcium independent, and it exhibits increased PLA2 activity in the presence of a calcium chelator, EGTA. In addition, the partially purified Manduca PLA2 is not inhibited by the phospholipid analog,

oleyloxyethylphosphorylcholine. These findings suggest that the Manduca digestive PLA2 may represent another novel form of PLA2.

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 23 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1993:188162 CAPLUS

DOCUMENT NUMBER: 118:188162

ORIGINAL REFERENCE NO.: 118:32247a,32250a

TITLE: The possible involvement of protein kinase C and

phospholipase A2 in Hydra tentacle regeneration

AUTHOR(S): De Petrocellis, L.; Di Marzo, V.; Cimino, G. CORPORATE SOURCE: Ist. Cibern., CNR, Arco Felice, I-80072, Italy

SOURCE: Experientia (1993), 49(1), 57-64 CODEN: EXPEAM; ISSN: 0014-4754

DOCUMENT TYPE: Journal LANGUAGE: English

The participation of protein kinase C (PKC) in the regeneration of tentacles of Hydra vulgaris was studied. Regeneration was induced by 1,2-sn-dioctanoyl-glycerol (diC8) and the novel diterpenoid diacylglycerol verrucosin B (VB), a potent PKC activator extracted from marine sources. VB substantially increased Hydra average tentacle number (ATN) at concns. 10,000 times lower than those needed for diC8 to exert an analogous effect. When both synthetic and natural VB analogs were tested, the structure/activity relation found in Hydra tentacle regeneration was identical to that known for DAG-induced activation of PKC in vitro. VB-induced increases in ATN was strongly counteracted by the PKC inhibitors sphingosine and A3, but was not synergistic with a 10-fold increase of extracellular Ca2+ concentration or with an increase of intracellular Ca2+ concentration obtained either with

the

ionophore A 23187 or with thapsigargin. This suggested the involvement of a non-Ca2+-dependent PKC in VB-triggered Hydra tentacle regeneration. The involvement of phospholipase A2 (PLA2) activation in Hydra regenerative processes was studied using the novel site-specific inhibitor of the enzyme, oleyloxyethylphosphorylcholine (OOPC), which brought about a striking inhibition of ATN in the low micromolar range. This effect was reversed by arachidonic acid (AA), while an enhancement of ATN was also observed with an inhibitor of AA uptake from membrane phospholipids, thus suggesting that PLA2-catalyzed liberation of AA is involved in Hydra tentacle regeneration. OOPC also blocked verrucosin B-induced PKC-mediated enhancement of ATN, thus suggesting that this effect is also mediated by PLA2 activation. ATN was increased also by compound 48/80, a direct activator of pertussis toxin-sensitive GTP-binding proteins, and this effect was counteracted by pertussis toxin pretreatment. None of the known AA cascade inhibitors exhibited an effect on ATN comparable to that exerted by OOPC, but, surprisingly, the cyclooxygenase inhibitor

indomethacin strongly enhanced ATN, thus suggesting that prostanoids might effect a neg. control on Hydra regenerative processes. This represents the 1st attempt to study the implication of >1 biochem. pathway as a signaling event in the hydroid regenerative processes.

L2 ANSWER 24 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1991:401629 CAPLUS

DOCUMENT NUMBER: 115:1629
ORIGINAL REFERENCE NO.: 115:342h,343a

TITLE: Inhibitors of cytochrome P-450 attenuate the myogenic

response of dog renal arcuate arteries

AUTHOR(S): Kauser, Katalin; Clark, Joan E.; Masters, Bettie Sue;

Ortiz de Montellano, Paul R.; Ma, Yunn Hwa; Harder,

David R.; Roman, Richard J.

CORPORATE SOURCE: Dep. Physiol., Med. Coll. Wisconsin, Milwaukee, WI,

53226, USA

SOURCE: Circulation Research (1991), 68(4), 1154-63

CODEN: CIRUAL; ISSN: 0009-7330

DOCUMENT TYPE: Journal LANGUAGE: English

AB The role of cytochrome P 450 in the myogenic response of isolated, perfused renal arcuate arteries of dogs to elevations in transmural pressure was examined The phospholipase A2 inhibitor oleyloxyethylphosphorylcholine (1 and 10 μ M) inhibited the 3-fold increase in active wall tension in these arteries after an elevation in perfusion pressure from 80 to 160 mm Hg. Inhibition of cyclooxygenase activity with indomethacin (1 or 10 $\mu\text{M})$ had no effect on this response. The cytochrome P 450 inhibitors ketoconazole (10 and 100 μM) and β -diethyl-aminoethyldiphenylpropylacetate (SKF 525A, 10 and 100 $\mu\text{M})$ also inhibited the myogenic response. At a pressure of 160 mm Hg, SKF 525A (10 μ M) and ketoconazole (100 μ M) reduced active wall tension in renal arteries by approx. 70%. Partial inhibition of the myogenic response was obtained after perfusion of the vessels with mechanism-based inhibitors of P 450, 1-aminobenzotriazole (75 μM) and 12-hydroxy-16-heptadecynoic acid (20 μ M). The thromboxane receptor antagonist SQ 29,548 (1 of 10 μM) had no effect on the pressure-induced increase in active wall tension in renal arteries. Arachidonic acid (50 μM) constricted isolated perfused renal arteries and potentiated the myogenic response in the presence of indomethacin. This response was completely reversed by ketoconazole (100 μM) or SKF 525A (100 μM). Microsomes (1 mg/mL) prepared from small renal arteries (200-500 μ m) and incubated with [1-14C] arachidonic acid $(0.5 \mu Ci, 50 \mu M)$ produced a metabolite that coeluted with 20-hydroxyeicosatetraenoic acid (20-HETE) during reversed-phase HPLC. The formation of this produce was inhibited by both ketoconazole and SKF 525A at concns. of 10 and 100 $\mu\text{M}.$ These results are consistent with the involvement of the vasoconstrictor 20-HETE and other cytochrome P 450 metabolites of endogenous fatty acids in the myogenic response.

L2 ANSWER 25 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1985:406131 CAPLUS

DOCUMENT NUMBER: 103:6131

ORIGINAL REFERENCE NO.: 103:1103a,1106a

TITLE: A new efficient and versatile synthesis of alkyl

phosphorylcholines

AUTHOR(S): Magolda, R. L.; Johnson, P. R.

CORPORATE SOURCE: Cent. Res. Dev. Dep., E. I. du Pont de Nemours and

Co., Wilmington, DE, 19898, USA

SOURCE: Tetrahedron Letters (1985), 26(9), 1167-70

CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 103:6131

Phosphorylcholines ROP(0)(0-)OCH2CH2N+Me3 [R = Me(CH2)n,

Me(CH2)7CH:CH(CH2)8, Me(CH2)mS(CH2)3, Me(CH2)7CH:CH(CH2)8S(CH2)3, Me(CH2) mOCH2CH2, Me(CH2) 7CH: CH(CH2) 8OCH2CH2; m = 15, 17; r = 5, 7, 11, 17were prepared in 35-50% overall yield by treating ROH with POCl3, followed by ethylene glycol and treating the resulting cyclic phosphates with Me3N.

ΙT 96720-06-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

96720-06-8 CAPLUS

CN 3,5,8-Trioxa-4-phosphahexacos-17-en-1-aminium, 4-hydroxy-N,N,N-trimethyl-, inner salt 4-oxide (CA INDEX NAME)

ANSWER 26 OF 27 WPIDS COPYRIGHT 2008 THOMSON REUTERS on STN

ACCESSION NUMBER: 2000-171073 [15] WPIDS

DOC. NO. CPI: C2000-053194 [15]

Modifying vasoactivity and inflammatory actions in TITLE:

microglia and neurons comprises regulating a soluble alphabeta pro-inflammatory pathway, useful for treating vascular diseases, e.g. cerebral amyloid angiopathy and

vascular amyloidosis

DERWENT CLASS: B04
INVENTOR: MULLAN M J; PARIS D; TOWN T C
PATENT ASSIGNEE: (UYSF-N) UNIV SOUTH FLORIDA
COUNTRY COUNT: 84

PATENT INFO ABBR.:

PATENT NO KIND DATE WEEK LA PG MAIN IPC

WO 2000002561 A1 20000120 (200015)* EN 77[29]

AU 9949948 A 20000201 (200028) EN

APPLICATION DETAILS:

PATENT NO KIND APPLICATION DATE WO 2000002561 A1 WO 1999-US15947 19990713

AU 9949948 A AU 1999-49948 19990713

FILING DETAILS:

PATENT NO KIND PATENT NO AU 9949948 A Based on WO 2000002561 A

PRIORITY APPLN. INFO: US 1998-92570P 19980713

AN 2000-171073 [15] WPIDS AB WO 2000002561 A1 UPAB: 20060116

NOVELTY - Modifying vasoactivity comprises regulating a soluble alphabeta pro-inflammatory pathway.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a pharmaceutical composition comprising an effective amount of

a soluble alphabeta pro-inflammatory pathway regulator and a carrier;

- (2) a diagnostic method including detecting modification of the soluble alphabeta pro-inflammatory pathway; and
- (3) a method of modifying inflammatory actions in microglia and neurons by regulating a soluble alphabeta pro-inflammatory pathway. ACTIVITY Vasoactive.

MECHANISM OF ACTION - Signal transduction pathway (e.g. sPLA2/MAPK/cPLA2/AA/LOX/COX) modulators.

In tests to evaluate the effect of alphabeta on microglial LTB4 release, soluble alphabeta treatment of the murine microglial cell line, N9, resulted in an increased release of LTB4. COX-2 inhibition (via the COX-2 specific inhibitor, NS-398, 50 microM) resulted in complete blockade of LTB4 release. Furthermore, inhibition of p38 MAPK by the specific inhibitor SB202190 (5 microM) or inhibition of MEK1/2 via PD98059 (25 microM) each resulted in complete blockade of alphabeta-induced microglial LTB4 release.

USE - The method is for treating patients with vascular disease by modifying an intracellular soluble alphabeta pro-inflammatory pathway (claimed). Vascular diseases to be treated include cerebral amyloid angiopathy and vascular amyloidosis.

ADVANTAGE - The methods reduce neuronal cell death associated with the pro-inflammatory pathway and vasoactivity.

L2 ANSWER 27 OF 27 USPATFULL on STN

ACCESSION NUMBER: 2006:127387 USPATFULL

TITLE: Coupling factor 6 inhibitor and potentiator and use

thereof

INVENTOR(S): Osanai, Tomohiro, Nakatsugaru-gun, JAPAN

Magota, Koji, Takatsuki, JAPAN

PATENT ASSIGNEE(S): Daiichi Suntory Pharma Co., Ltd., Tokyo, JAPAN (non-U.S.

corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 7049079	В1	20060523	
	WO 2001021205		20010329	
APPLICATION INFO.:	US 2000-831951		20000803	(9)
	WO 2000-JP5210		20000803	
			20010814	PCT 371 date

NUMBER	DATE

PRIORITY INFORMATION: JP 1999-264687 19990917

DOCUMENT TYPE: Utility FILE SEGMENT: GRANTED

PRIMARY EXAMINER: Nolan, Patrick J.

LEGAL REPRESENTATIVE: White, Jr., Paul E., Manelli Denison & Selter PLLC

NUMBER OF CLAIMS: 11 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 25 Drawing Figure(s); 25 Drawing Page(s)

LINE COUNT: 1391

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

Methods of measuring the presence/absence of a coupling factor 6, which is a subunit of H.sup.+-transporting ATP synthase→H.sup.+ ATP synthase present in the mitochondrial inner membrane, in the blood and the concentration thereof are provided. Further, relations among the coupling factor 6 level in the blood and diseases and relations among the inhibition of the effect of the coupling factor and therapeutic effects on diseases are clarified and thus techniques for diagnosing and treating these diseases are provided.

The present invention provides a vector containing a DNA encoding the

coupling factor 6 or fragment thereof; a transformant transformed by this vector; and a method of producing the coupling factor 6 and its fragment. The present invention further provides an antibody reacting specifically with the coupling factor 6; a process of producing the antibody; and a method of assaying the coupling factor 6.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his (FILE 'HOME' ENTERED AT 11:21:27 ON 30 OCT 2008) FILE 'REGISTRY' ENTERED AT 11:21:51 ON 30 OCT 2008 E "OLEYLOXYETHYLPHOSPHORYLCHOLINE"/CN 25 E "OLEYLOXYETHYLPHOSPHORYLCHOLINE"/CN 25 E "OLEYLOXYETHYL"/CN 25 T.1 1 S 96720-06-8/RN FILE 'MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 11:24:12 ON 30 OCT 2008 L2 27 S L1 OR OLEYLOXYETHYLPHOSPHORYLCHOLINE OR OLEYLOXYETHYLPHOSPHOC => s 12 and alzheimer 0 L2 AND ALZHEIMER => s 12 and alzheimer's MISMATCHED QUOTE 'ALZHEIMER'S' Quotation marks (or apostrophes) must be used in pairs, one before and one after the expression you are setting off or masking. => s 12 and vasoactivity 1 L2 AND VASOACTIVITY L4=> d 14ANSWER 1 OF 1 WPIDS COPYRIGHT 2008 THOMSON REUTERS on STN 2000-171073 [15] WPIDS DNC C2000-053194 [15] ΤI Modifying vasoactivity and inflammatory actions in microglia and neurons comprises regulating a soluble alphabeta pro-inflammatory pathway, useful for treating vascular diseases, e.g. cerebral amyloid angiopathy and vascular amyloidosis DC MULLAN M J; PARIS D; TOWN T C ΙN (UYSF-N) UNIV SOUTH FLORIDA PA CYC 84 A1 20000120 (200015)* EN 77[29] PΤ WO 2000002561 AU 9949948 A 20000201 (200028) EN WO 2000002561 A1 WO 1999-US15947 19990713; AU 9949948 A AU 1999-49948 ADT 19990713 FDT AU 9949948 A Based on WO 2000002561 A PRAI US 1998-92570P 19980713 IPCR A61K0031-00 [I,A]; A61K0031-00 [I,C]; A61K0031-121 [I,A]; A61K0031-121 [I,C]; A61K0031-165 [I,A]; A61K0031-165 [I,C]; A61K0031-18 [I,A]; A61K0031-18 [I,C]; A61K0031-21 [I,C]; A61K0031-27 [I,A]; A61K0031-352 [I,A]; A61K0031-352 [I,C]; A61K0031-357 [I,C]; A61K0031-36 [I,A];

A61K0031-366 [I,A]; A61K0031-366 [I,C]; A61K0031-403 [I,C]; A61K0031-4045

[I,A]; A61K0031-405 [I,A]; A61K0031-415 [I,A]; A61K0031-415 [I,C];

A61K0031-4427 [I,C]; A61K0031-4439 [I,A]

=> d his

(FILE 'HOME' ENTERED AT 11:21:27 ON 30 OCT 2008)

FILE 'REGISTRY' ENTERED AT 11:21:51 ON 30 OCT 2008

E "OLEYLOXYETHYLPHOSPHORYLCHOLINE"/CN 25

E "OLEYLOXYETHYLPHOSPHORYLCHOLINE"/CN 25

E "OLEYLOXYETHYL"/CN 25

1 S 96720-06-8/RN L1

FILE 'MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 11:24:12 ON 30 OCT

2008

L2 27 S L1 OR OLEYLOXYETHYLPHOSPHORYLCHOLINE OR OLEYLOXYETHYLPHOSPHOC

L3 0 S L2 AND ALZHEIMER

1 S L2 AND VASOACTIVITY L4

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---Logging off of STN---

Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	80.94	84.99
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	ENTRY	SESSION
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